

## **Appendix 6-A**

### **Underground Test Hole Core Logs**

## KEY TO SYMBOLS



SANDSTONE



MUDSTONE



MUDDY SANDSTONE



SANDY MUDSTONE



SHALE



COAL



CEMENT



BENTONITE



20-40 MESH SILICA SAND



CORE SAMPLE

Project Name: GROUND WATER INVESTIGATION		Boring/Well Number: DH-1A	
Owner/Client: CO-OP MINING COMPANY		Boring/Well Location: 395059.18 N 2112761.51 E	
Project Number: UC-192-06		Reference Elevation: 7535.71	
Date Drilled: 06 AUG 1991		Reference Point: MINE FLOOR	
Logged by: JDG		Drilling Contractor: CO-OP MINE PERSONNEL	
First occurrence of G.W.: 114.0' Static W.L.: 114.0'		Drilling Method: HYDRAULIC ROTARY Rig Type: DIAMEC 251	
Dates Measured: 06 AUG 91 21 APR 92		Boring Depth (Ft): 535' Well Depth (Ft): 171'	
Boring Diameter (in): 2.9"			

DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
0		COAL: Bottom coal. Good core.		Slip Cap with Cover
10		MUDSTONE: Gray. Hard. Good core. Carbonaceous banding.		
20		SANDSTONE: Very Fine grained. Sub-rounded grains. Finely laminated. Gray to light gray color. Occasional carbonaceous stringers.		
30		Medium cross-bed sets.		Cement
40		Carbonaceous stringers.		
50		Carbonaceous stringers.		
60		Gray-white color with dark gray carbonaceous stringers on cross-beds.		
70		SANDY MUDSTONE: Fine laminations. Varying proportions of sand and silt.		
80		SANDSTONE: Clean, with carbonaceous stringers on cross-beds between intervals of clean sand.		
90		Carbonaceous stringers and low angle cross-beds.		Bentonite Grout
100		COAL: Hiawatha Coal seam.		

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DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
100		SANDSTONE: Light gray-white colored. Spring Canyon Tongue of the Star Point Sandstone.		
		Fine-medium, rounded grains. Laminated.		
110		Fewer carbonaceous stringers. Low angle cross-beds.		
120		Carbonaceous stringers increase.		1.5" PVC Casing
130		Horizontal laminations. Massive bedded.		
140				20-40 Mesh Silica Sand
150		Massive bedded. Fine-medium grained. Low angle cross-beds. Dark minerals.		
160		Locally dense carbonaceous stringers.		1.5" PVC Slot Screen
170		Fining to Fine-very Fine grained.		
		Coarsening to Fine-medium grained.		Threaded End Plug,
180		MUDDY SANDSTONE: Dark gray colored.		
190		MUDSTONE: Sandy. Dark brown-gray colored. Mancos No. 1.		Cement Plug
		SANDY MUDSTONE: Marbled.		
200				

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DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOC.	WELL COMPLETION DETAILS
200		SANDY MUDDSTONE: Alternating marbled and laminated muddy inter-beds.		
210				
220		MUDDSTONE: Gray-brown colored. Marbled. Laminated.		
230		SANDY MUDDSTONE: Marbled. Laminated. Laminations increasing. Sand decreasing.  Sandy.		
240				
250		SANDSTONE: Fine-very fine grained. Clean. Low angle cross-beds. Storrs Tongue of the Star Point Sandstone.		
260		MUDDY SANDSTONE: Laminated. Marbled. Bioturbated. Sand and mud proportions vary locally.		
270				
280				
290		SANDSTONE: Clean. Low angle cross-beds. occasional carbonaceous stringers.		
300				

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Boring Diameter (in): 2.9"			

DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOC.	WELL COMPLETION DETAILS
300		SANDSTONE: Occasional carbonaceous partings.  Pyritized fracture.		
310				
320		MUDDY SANDSTONE: Mud increasing downward. Laminated. Bioturbated.		
330				
340				
350		MUDSTONE: Occasionally sandy. Marbled. Laminated. Dark gray colored. Locally bioturbated. Mancos No. 2.		
360				
370				
380		SANDY MUDSTONE: Marbled. Bioturbated. Varies to mudstone locally.		
390				
400				

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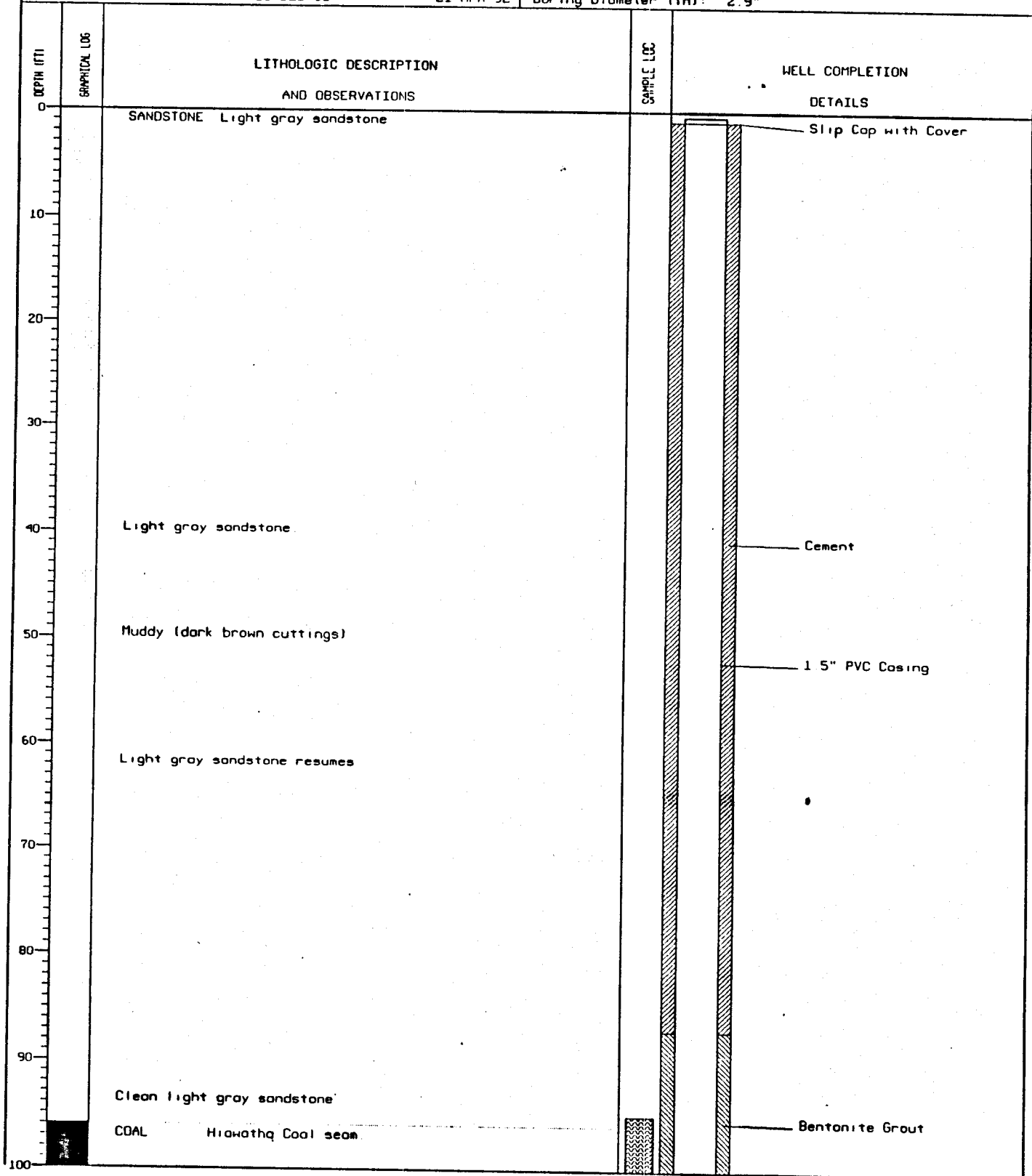
DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOC.	WELL COMPLETION DETAILS
400		SANDY MUDSTONE.		
410		SANDSTONE: Low angle cross-beds. Fine-coarse grained. Dark minerals. Occasional muddy partings. Thin-medium bedding. Moderate-poor sorting. Appears to be more porous than upper units. Panther Tongue of the Star Point Sandstone.		
420				
430		Circulation loss.		
440				
450				
460		Mud-lined fracture.		
470				
480		Losing circulation.		
490				
500		Muddy bands in white sandstone increasing.		

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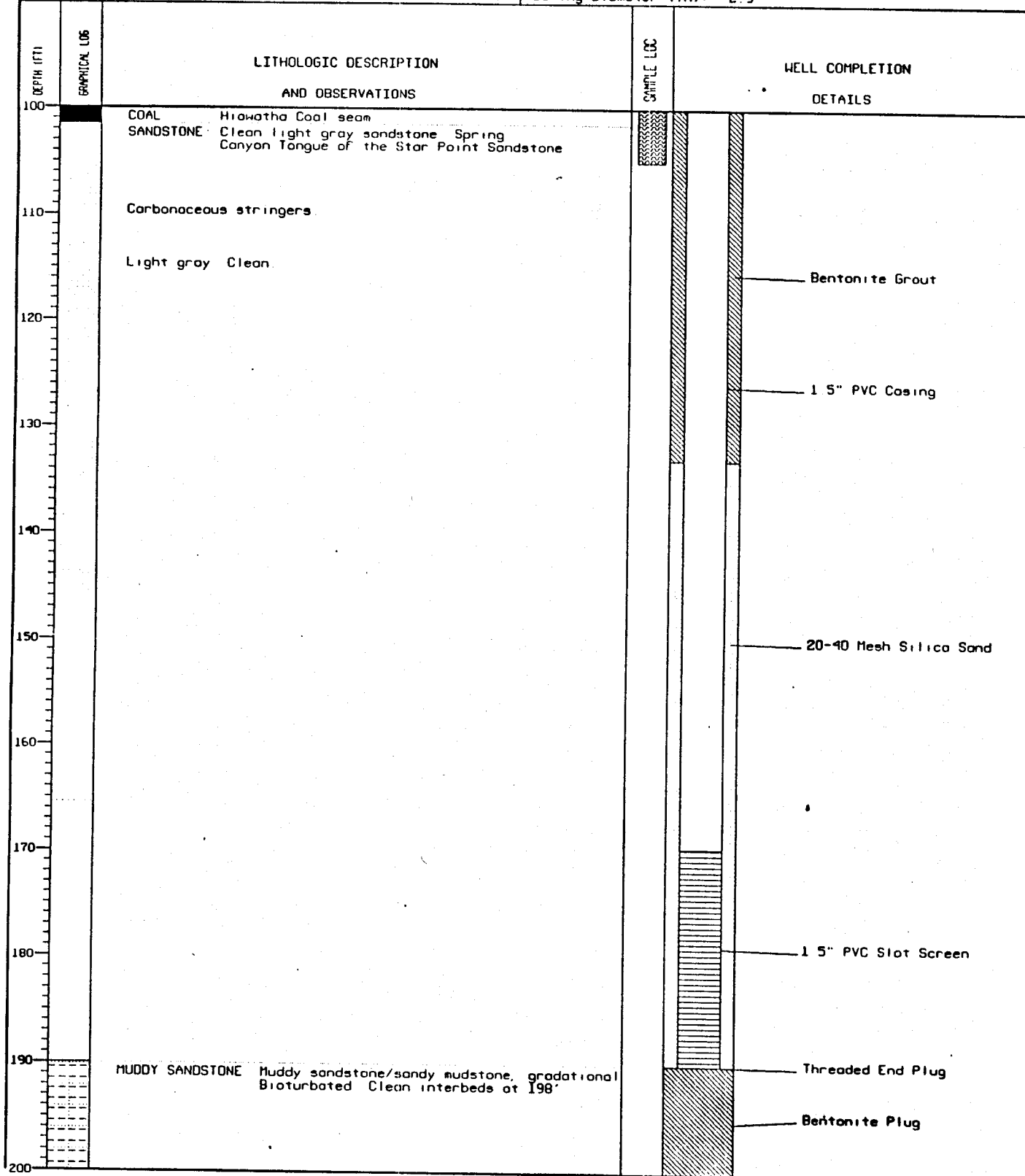
DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
500		SANDSTONE:		
		SANDY MUDSTONE: White colored, fine to medium grained sandstone grading to dark gray-brown mudstone. Heavily bioturbated.		Cement Plug
510		SHALE: Mancos Shale.		
520				
530				
540				
550				
560				
570				
580				
590				
600				



Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-2
Owner/Client: CO-OP MINING COMPANY	Boring/Well Location: 397775.88 N 2112519.39 E
Project Number: UC-192-06	Reference Elevation: 7557.18'
Date Drilled: 16 DEC 1991	Reference Point: MINE FLOOR
Logged by: JDG & AM	Drilling Contractor: CO-OP MINE PERSONNEL
First occurrence of G.W.: 22.98 Static W.L.: 22.98	Drilling Method: HYDRAULIC ROTARY Rig Type: DIAMEC 251
Dates Measured: 16 DEC 91 21 APR 92	Boring Depth (Ft): 530' Well Depth (Ft): 190'
	Boring Diameter (in): 2.9"



Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-2
Owner/Client: CO-OP MINING COMPANY	Boring/Well Location: 397775.88 N 2112519.39 E
Project Number: UC-192-06	Reference Elevation: 7557.18
Date Drilled: 16 DEC 1991	Reference Point: MINE FLOOR
Logged by: JDG & AM	Drilling Contractor: CO-OP MINE PERSONNEL
First occurrence of G.W.: 22.98' Static W.L.: 22.98	Drilling Method: HYDRAULIC ROTARY Rig Type: DIAHEC 251
Dates Measured: 16 DEC 91 21 APR 92	Boring Depth (ft): 530' Well Depth (ft): 190'
	Boring Diameter (in): 2.9"



Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-2
Owner/Client: CO-OP MINING COMPANY	Boring/Well Location: 397775.88 N 2112519.39 E
Project Number: UC-192-06	Reference Elevation: 7557.18
Date Drilled: 16 DEC 1991	Reference Point: MINE FLOOR
Logged by: JDG & AM	Drilling Contractor: CO-OP MINE PERSONNEL
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Dates Measured: 16 DEC 91 21 APR 92	Boring Depth (ft): 530' Well Depth (ft): 190'
	Boring Diameter (in): 2.9"

DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
200		MUDDY SANDSTONE Carbonaceous stringers		
210		SANDY MUDSTONE Grades to mudstone Bioturbated Top of Mancos No 1		
220		Gradational muddy sandstone/sandy mudstone		
230				Bentonite Plug
240		SANDSTONE White-light gray colored Occasional mud in cuttings Storrs Tongue of the Star Point Sandstone		
250				
260				
270				
280				
290				
300				

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DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
300		SANDSTONE Light gray Clean		
310				
320				
330				Bentonite Plug
340		MUDDY SANDSTONE Muddy sandstone/sandy mudstone, gradational Carbonaceous laminations		
350		MUDSTONE Top of Mancos No 2		
360				
370				
380				
390		SANDY MUDSTONE Bioturbated		
400				

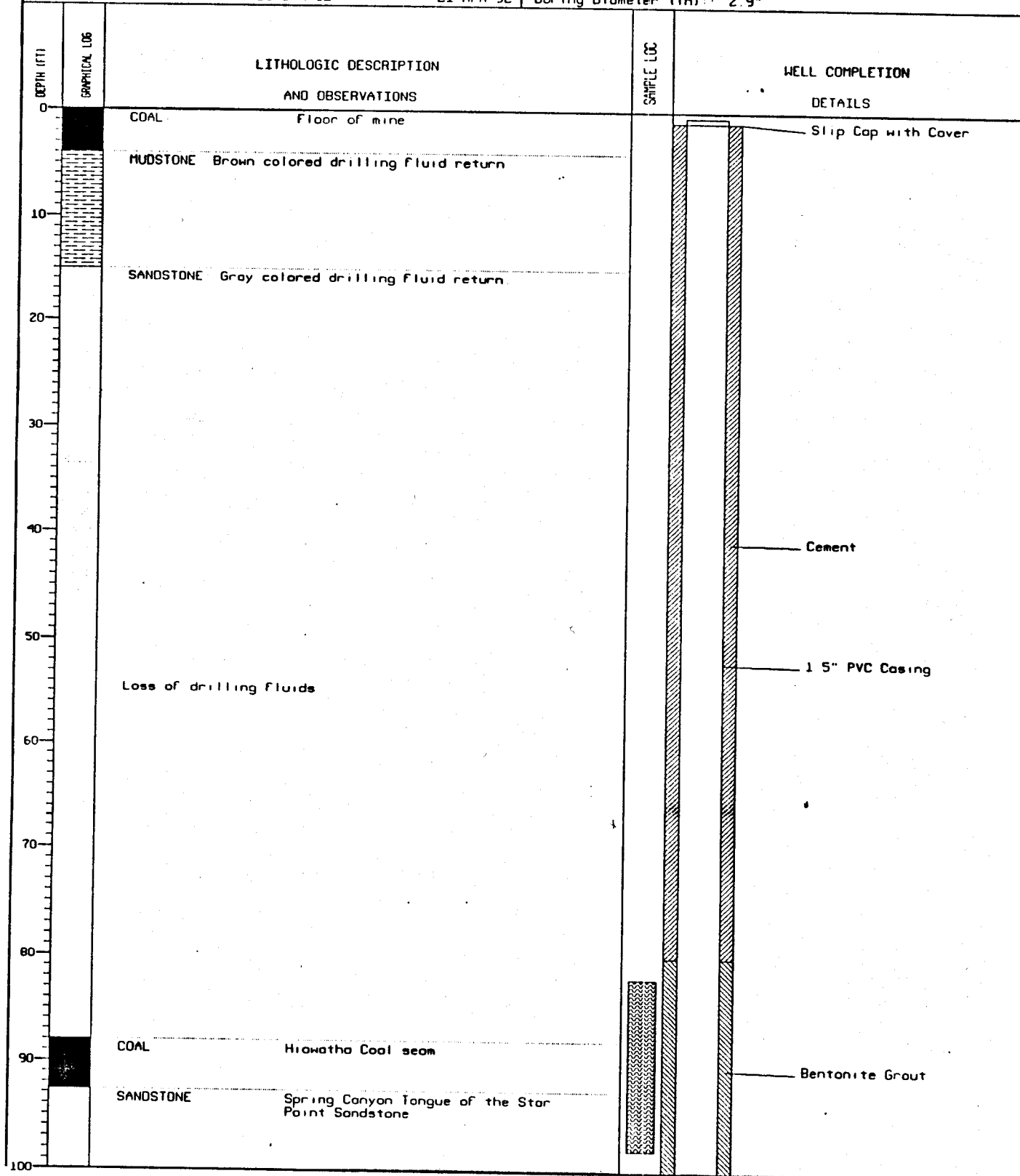
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	Boring Diameter (in): 2.9"

DEPTH (FT)	EMPIRICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE THICKNESS	WELL COMPLETION DETAILS
100		SANDY MUDDSTONE Bioturbated		
110				
120				
130		SANDSTONE Sandstone Light gray colored Fine to coarse grained Dark minerals Occasional muddy parting Panther Tongue of the Star Point Sandstone		Bentonite Plug
140				
150				
160				
170				
180				
190				
200				
210				
220				
230				
240				
250				
260				
270				
280				
290				
300				

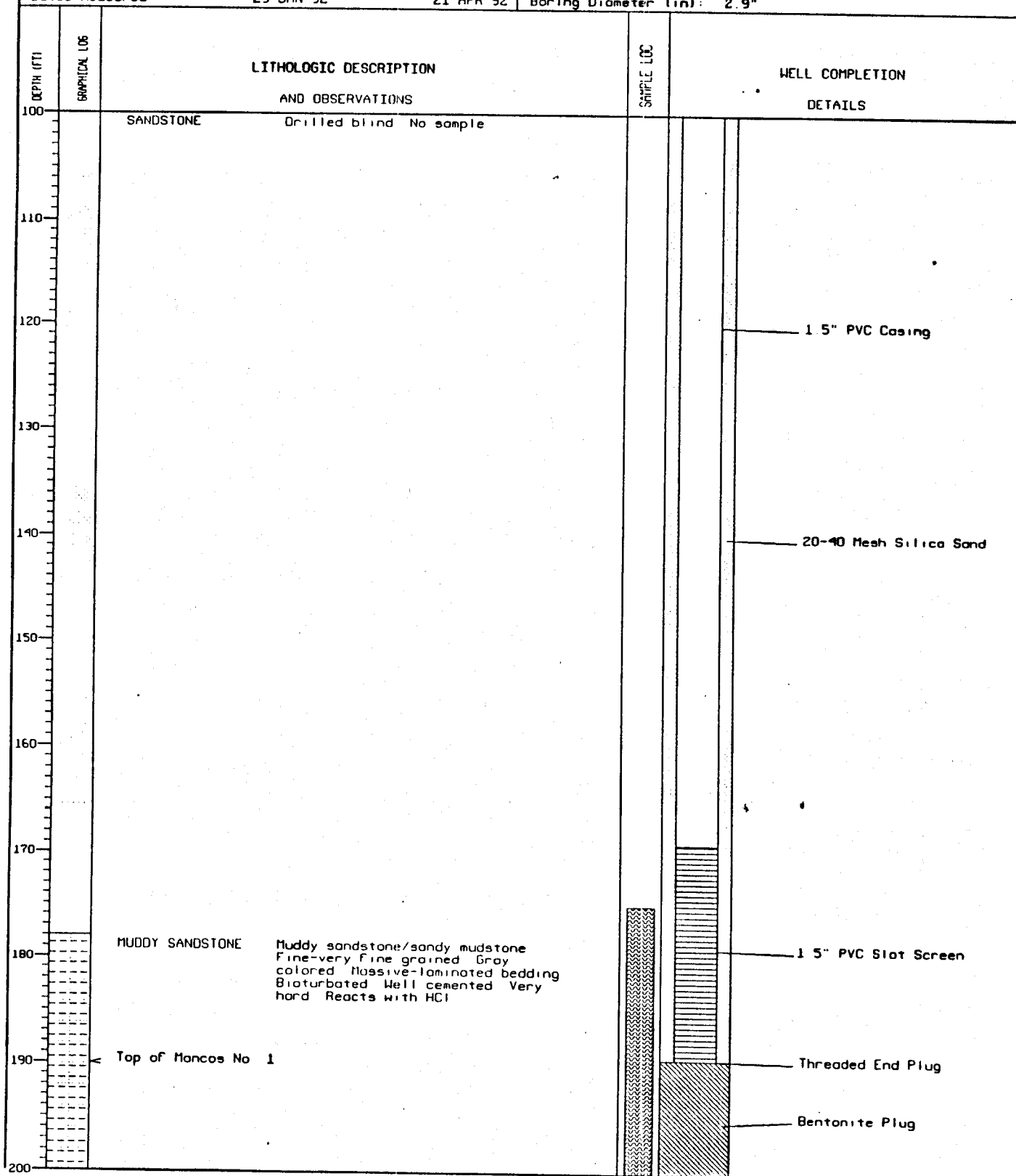
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Dates Measured: 16 DEC 91 21 APR 92	Boring Diameter (in): 2.9"

DEPTH (FT)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
500		SANDSTONE Light gray colored Fine-coarse grained Dark minerals Occasional muddy parting Bioturbated Increasing appearance of mud.		
510		SHALE Mancos Shale		
520				
530				Bentonite Grout
540				
550				
560				
570				
580				
590				
600				

Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-3
Owner/Client: CO-OP MINING COMPANY	Boring/Well Location: 394514.78 N 2113242.89 E
Project Number: UC-192-06	Reference Elevation: 7520.94
Date Drilled: 29 JAN 1992	Reference Point: MINE FLOOR
Logged by: JRP	Drilling Contractor: CO-OP MINE PERSONNEL
First occurrence of G.W.: 125.28' Static W.L.: 125.28'	Drilling Method: HYDRAULIC ROTARY Rig Type: DIAMEC 251
Dates Measured: 29 JAN 92 21 APR 92	Boring Depth (ft): 545' Well Depth (ft): 190'
	Boring Diameter (in): 2.9"



Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-3
Owner/Client: CO-OP MINING COMPANY	Boring/Well Location: 394514.78 N 2113242.89 E
Project Number: UC-192-06	Reference Elevation: 7520.94
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Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-3
Owner/Client: CO-OP MINING COMPANY	Boring/Well Location: 394514.78 N 2113242 89 E
Project Number: UC-192-06	Reference Elevation: 7520.94
Date Drilled: 29 JAN 1992	Reference Point: MINE FLOOR
Logged by: JRP	Drilling Contractor: CO-OP MINE PERSONNEL
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DEPTH (ft)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
200		<b>SANDY MUDSTONE</b> Sandy mudstone/muddy sandstone Gradational contacts Medium-very fine grained Dull luster Gritty- smooth feel Unweathered Sandy units are gray (5Y6/1) Muddy units are gray-brown (5Y4/1) Hard Pre- dominantly quartz with minor dark minerals Mica along muddy partings Laminated Low angle cross-beds Bioturbated Non-fractured Cores are in excellent condition		
210				
220				
230		<b>SANDSTONE</b> Sandstone/muddy sandstone Gray colored Fine grained Storrs Tongue of the Star Point Sandstone		
240		Muddy and bioturbated		
250		Laminated and bioturbated		
260		Sand increasing		
270				
280				
290		Sand and muddy sand		
300				

Bentonite Plug

Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-3
Owner/Client: CO-OP MINING COMPANY	Boring/Well Location: 394514.78 N 2113242.89 E
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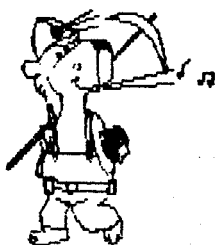
DEPTH (FT)	GRAPHICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
300		SANDSTONE		
		Clean Sand		
310				
		Muddier and bioturbated		
320				
				Bentonite Plug
330				
		Grading to muddy sand		
340		SANDY MUDSTONE Muddy sandstone/sandy mudstone Gradational contacts Dark gray- brown colored		
350		Top of Mancos No. 2		
360				
		Sandy mudstone/mudstone		
370				
380				
		Sandy mudstone/muddy sandstone		
390				
400				

Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-3
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DEPTH (FT)	GEOPHYSICAL LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
400		SANDY MUDSTONE		
410				
420				
430		SANDSTONE Medium-fine grained Sub-angular to sub-rounded grain texture Moderate sorting Little or no weathering Gray colored with dark minerals Hard Predominantly quartz, with muscovite along muddy partings Calcite cement Massive bedded with laminations locally Bioturbated Few fractures Core is in excellent condition Panther Tongue of the Star Point Sandstone		Bentonite Grout
440				
450				
460				
470				
480				
490				
500				

Project Name: GROUND WATER INVESTIGATION	Boring/Well Number: DH-3
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DEPTH (FT)	GRAIN SIZE LOG	LITHOLOGIC DESCRIPTION AND OBSERVATIONS	SAMPLE LOG	WELL COMPLETION DETAILS
500		SANDSTONE		
510				
520		SHALE Mancos Shale		
530				Bentonite Plug
540				
550				
560				
570				
580				
590				
600				



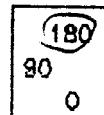
C. W. MINING COMPANY



## DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS-6 DIRECTION: UP DRILLING ANGLE: \_\_\_\_\_

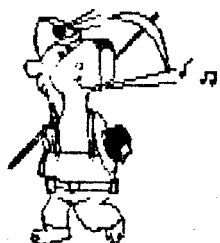
DRILLHOLE LOCATION: \_\_\_\_\_



DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

Depth	Graphic Log	Geologic Description	Comments
300			
275		8" Coal	
250		5' Coal	
		8' Coal (Tank Seam)	
225		(5' Core)	
		Unknown (not logged)	
25		Sandstone	
		Roof Coal	Blind Canyon Seam



# C. W. MINING COMPANY

## DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS-7 DIRECTION: UP DRILLING ANGLE: 180

DRILLHOLE LOCATION: 56 North | Between 1 and 2 Right

180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: 10/31/91 END DATE: 11/4/91

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

Depth	Graphic Log	Geologic Description	Comments
120			
		Shale	
100		Sandstone	
80		3' Coal	
60		Bedded Brown, white & grey Sandstone	
40			
20		2' Coal Shale Coal	
			Plug Drilled Rough Coal (Black Canyon Series)



# C. W. MINING COMPANY



## DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS-7 DIRECTION: \_\_\_\_\_ DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

Depth	Graphic Log	Geologic Description	Comments
240			
		1' Coal	
220		2' Coal	Core Drilled plug Drilled
200		Bedded Sandstone	
180		Shale 2' Coal	
160		Bedded Sandstone	
140		1' Coal Sandstone	



# C. W. MINING COMPANY

## DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS-2 DIRECTION: \_\_\_\_\_ DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

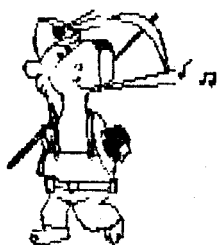
180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

[illegible]





C. W. MINING COMPANY



## DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS-8 DIRECTION: UP DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

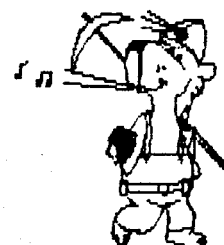
ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

Depth	Graphic Log	Geologic Description	Comments
120		Shale	
		2' Coal	
		Shale	
100			
		1' Coal	
80			
60			
40			
20		4' Coal (Split)	
		Shale	
		3' Coal	
		Rock Coal Blind Carbon Seam	



# C. W. MINING COMPANY

## DRILL HOLE LOG



PROJECT No: \_\_\_\_\_ HOLE No: TS-8 DIRECTION: \_\_\_\_\_ DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

Depth	Graphic Log	Geologic Description	Comments
240			
		Bedded Sandstone	
220		2' Coal	
		1' Coal	
		Bedded Sandstone	
200			
180			
160			
140		Sandstone	
		shale	



# C. W. MINING COMPANY

## DRILL HOLE LOG



PROJECT No: \_\_\_\_\_ HOLE No: TS-8 DIRECTION: \_\_\_\_\_ DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

[illegible]



C. W. MINING COMPANY



## DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS9 DIRECTION: UP DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

Depth	Graphic Log	Geologic Description	Comments
150			
125		1' Coal 5' Shale	
100		Bedded Sandstone	
75		3' Coal	
50		Bedded	
25		Sandstone	
		5' Coal	Roof Coal (Blind Canyon Seam)



# C. W. MINING COMPANY

## DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS-9 DIRECTION: \_\_\_\_\_ DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

Depth	Graphic Log	Geologic Description	Comments
275			
250		8' Coal (Tank Seam)	
		2' Coal, 5' Shale	
		4' Shale	
		Bedded Sandstone	
225			
		2' Coal, 3' Shale	
		Shale	
200			
		10' Sandstone	
		5' Shale	
175		1' Coal, 4' Sandstone	
		Shale	



# C. W. MINING COMPANY

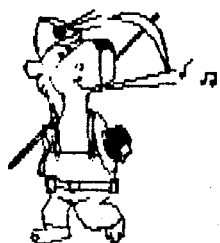
## DRILL HOLE LOG



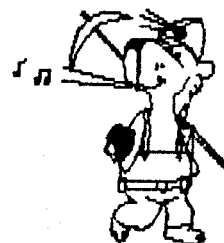
PROJECT No: \_\_\_\_\_ HOLE No: TS-10 DIRECTION: UP DRILLING ANGLE: \_\_\_\_\_  
DRILLHOLE LOCATION: \_\_\_\_\_  
DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_  
ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

180  
90  
0

Depth	Graphic Log	Geologic Description	Comments
150			
		7' Shale	
		2' Coal	
125			
		3' Shale	
		5' Shale	
		Bedded Sandstone	
100			
		5' Shale	
		1' Coal	
75			
		12' Shale	
		2' Coal	
		Sandstone	
		2' Shale	
		Sandstone	
50			
		1' Coal	
25			
		2' Shale	
		6' Coal	
			Roof Coal, Blind Canyon Seam



# C. W. MINING COMPANY



# DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS-10 DIRECTION: \_\_\_\_\_ DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

180  
90  
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

[illegible]



# C. W. MINING COMPANY

## DRILL HOLE LOG



PROJECT No: \_\_\_\_\_ HOLE No: TS-14 DIRECTION: Up DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

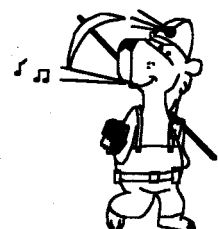
180
90
0

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

Depth	Graphic Log	Geologic Description	Comments
150			
125			
		12' Mudstone / Shale	
		4' Sandstone	
100		15' Shale / Mudstone	
		20' Sandstone	
75		3' Shale	
		2' Coal	
		Sandstone	
		2' Coal	
		4' Shale	
		1' Coal	
50			
		Sandstone	
25			





# C. W. MINING COMPANY

## DRILL HOLE LOG

PROJECT No: \_\_\_\_\_ HOLE No: TS-14 DIRECTION: Up DRILLING ANGLE: \_\_\_\_\_

DRILLHOLE LOCATION: \_\_\_\_\_

DRILLER: \_\_\_\_\_ START DATE: \_\_\_\_\_ END DATE: \_\_\_\_\_

ASSISTANT: \_\_\_\_\_ START TIME: \_\_\_\_\_ END TIME: \_\_\_\_\_

180  
90  
0

Depth	Graphic Log	Geologic Description	Comments
300			
275			
250			
		1' Sandstone	
		9' Coal	
		7' Sandstone	
		3' Shale/mudstone	
225		2' Coal	
		8' Shale/mudstone	
		12' Sandstone	
		3' Coal	
200		10' Sandstone	
		16' Shale/mudstone	
175		Sandstone	